

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 01/24/2002. It is noted, however, that applicant has not filed a certified copy of the foreign application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Funada et al. (US Patent 572440), hereinafter referred to as Funada, in view of Kasahara (US Patent 5436647).

Regarding claim 1, Funada discloses an image forming apparatus in which an image forming speed can be changed in accordance with an image forming mode, comprising: a plurality of image forming means for forming images of different colors based on image information; transferring means for transferring the images formed by said plurality of image forming means sequentially in a superimposing manner; image discriminating means for automatically discriminating whether said image information is monochrome or multi-color; image discriminating operation selecting means for selecting whether or not said image discriminating means is to be operated; and mode selecting means for selecting between a monochrome image forming mode and a multi-

Art Unit: 4115

color image forming mode when said image discriminating operation selecting means is not selected, wherein, when said image discriminating means is selected to be operated by said image discriminating operation selecting means, an image forming speed at a time of monochrome image forming and at a time of multi-color image forming is set to a first speed, irrespective of a result of discrimination by said image discriminating means. In addition, Funada discloses an image processing apparatus. Further, Funada discloses a magenta developing unit 219, a cyan developing unit 200, a yellow developing unit 221, and a black developing unit 222, which read on claimed a plurality of image forming means for forming images of different colors based on image information, as disclosed at figure 2 and column 4, lines 50-52. Funada discloses a transfer drum 223 and corresponding rollers that move paper from sheet cassettes 224 or 225 to the fixing unit 226 for exit. The said developing units superimpose their individual images together upon the sheets that come from 224 or 225 sequentially against transfer drum 223, which reads on claimed transferring means for transferring the images formed by said plurality of image forming means sequentially in a superimposing manner, as disclosed at figure 2 and column 4, lines 57-64. Funada discloses a color judgment unit 109, a chromatic color pixel counting circuit 117, and a CPU 1106, which read on claimed image discriminating means for automatically discriminating whether said image information is monochrome or multi-color, as disclosed at figures 1 & 11 and column 10, lines 1-7 and 35-37. An operation control unit contains an element 619 which is an ACS key that allows a user to select whether to automatically judge the color/monochrome status of a document, which reads on

Art Unit: 4115

claimed image discriminating operation selecting means for selecting whether or not said image discriminating means is to be operated, as disclosed at figure 37 and column 20, lines 66-67 and column 21, line 1. Funada discloses an element 620 and 621, which read on mode selecting means for selecting between a monochrome image forming mode and a multi-color image forming mode when said image discriminating operation selecting means is not selected, as disclosed at figure 37 and column 21, lines 4-9. Funada discloses figure 10, which outlines the routes of black scanning and color scanning after ACS judgment. Black, which reads on claimed monochrome image forming; scanning and color, which reads on claimed multi-color image forming; scanning do not scan at different scan speeds, which reads on claimed image forming speed and overall: when said image discriminating means is selected to be operated by said image discriminating operation selecting means, an image forming speed at a time of monochrome image forming and at a time of multi-color image forming is set to a first speed, irrespective of a result of a discrimination by said image discriminating means; as disclosed at figure 10 and column 9, lines 52-61. However, Funada fails to disclose when a monochrome mode is selected, having a faster scan speed than said first speed. However, the examiner maintains that it was well known in the art to provide when a monochrome mode is selected, having a faster scan speed than said first speed, as taught by Kasahara.

In a similar field of endeavor, Kasahara discloses a color image forming apparatus. In addition, Kasahara discloses a black-and-white mode, which reads on claimed monochrome image forming mode; being selected, which reads on is selected;

Art Unit: 4115

and consequently the rotation speed of the polygon mirror motor is increased, which reads on claimed image forming speed at the time of monochrome image forming is increased. Kasahara discloses that it is preferable that the scanning speed, which reads on claimed image forming speed; associated with a monochrome image be higher than the speed for a full color image, which reads on claimed set to a second speed that is higher than said first speed; as disclosed at column 6, lines 34-41, 47-54, 58-59, 66-68 and column 7, lines 1-4.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Funada by specifically providing when a monochrome mode is selected, having a faster scan speed than said first speed, as taught by Kasahara, for the purpose of considering economy and efficiency, as disclosed by Kasahara.

Regarding claim 2, Funada and Kasahara disclose everything as applied above for claim 1. In addition, Funada discloses a photosensitive drum 217, which reads on claimed image bearing member; a laser driver 212, a laser 213, which reads on claimed light source; a polygon mirror 214, which reads on claimed reflecting member that reflects light emitted from said light source while rotating; a lens 215, and a mirror 216, which reads on claimed scanning exposure means for performing scanning exposure in order to form a latent image on the image bearing member, as disclosed in figure 2 and column 4, lines 45-49. It is inherent that the polygon mirror would have a driving means for the purpose of driving rotation, which reads on claimed driving means for rotating said reflecting member. Kasahara disclosed in claim 1 that when the monochrome mode

Art Unit: 4115

was selected, the image forming speed and hence, the driving speed of the polygon mirror, was increased from the full color mode, which reads on claimed when the image forming speed is changed, a driving speed of said driving means is changed.

Regarding claim 3, Funada and Kasahara disclose everything as applied above for claim 2. Kasahara disclosed above increasing the rotation speed of the polygon mirror when the monochrome mode is manually set, which means that speed is set "instantly," before a job necessitates initiation of speed change, which reads on claimed when said monochrome image forming mode is selected by said mode selecting means, the driving speed of said driving means is changed prior to start of an image forming operation.

Regarding claim 4, Funada and Kasahara disclose everything as applied above for claim 1. Kasahara disclosed above the monochrome/black-and-white mode having a higher image forming speed than that of the full color mode, which has the monochrome/black-and-white mode read on claimed second speed and the full color mode reading on claimed first speed. Therefore, the previous disclosure reads upon claimed when said multi-color image forming mode is selected by said mode selecting means, the image forming speed at the time of multi-color image forming is set to said first speed.

Regarding claim 5, Funada and Kasahara disclose everything as applied for claim 1. In addition, Funada disclosed an embodiment of monochrome mode as black, as disclosed in figure 10 and column 9, lines 52-61, which reads on claimed wherein said monochrome is black.

Regarding claim 6, Funada and Kasahara disclose everything as applied above for claim 1. Funada discloses an image scanner assembly, which reads on claimed reading means that reads an original image; that transmits image data, which reads on claimed image information; to a signal processing unit 211 which connects with the judging circuit (as disclosed for claim 1), which reads on claimed image discriminating means; as disclosed at column 4, lines 12-24 and figure 1.

Citation of Pertinent Art

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Katamoto et al. (US Patent 6188419) discloses a color image-forming device. Kohyama (US Patent 4841335) discloses a recording apparatus and method. Katakura et al. (US Patent 6108017) discloses a printer. Yorkey et al. (US Patent 6317218) discloses a printer with adaptive printing mode. Sugano et al. (US Patent 5070367) discloses a color image forming apparatus with an automatic color selection mode.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Storey whose telephone number is 571-270-3576. The examiner can normally be reached on Monday - Friday (Alternate Fridays off) 7:30-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jefferey F. Harold can be reached on 571-272-7519. The fax phone

Art Unit: 4115

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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